

# **Chair Assembled from Blow-Molded Parts without Tool**

## **Cross-Reference**

The present application is a continuation-in-part application of US Patent Application Serial No. 10/425373.

## **Field of Invention**

The present invention relates to a chair assembled from blow-molded parts without any tool.

## **Background of Invention**

A typical chair includes a lower block and an upper block mounted on the lower block. The lower block includes a base for installment on the ground, a telescopic post mounted on the base, a control device connected with the telescopic post for control over the extending and shrinking of the telescopic post. The upper block includes a seat mounted on the control device, a backrest mounted on the seat and two armrests mounted on the seat. The seat, the backrest and the armrests are separately molded and then assembled. This practice however requires a lot of labor and time and therefore entails a high cost.

US Patent Application Serial No. 10/425373 discloses a chair including a lower block put on the ground and an upper block installed on the lower block. The upper block includes a hollow seat and a hollow backrest installed on the hollow seat. The hollow seat and the hollow backrest

1 are both made via injection molding. The hollow seat and the hollow  
2 armrests are made of adequate sizes. Yet, only a little material is  
3 required since they are hollow. Adequate sizes provide sufficient  
4 strengths. A little material entails a low cost in fabrication. A little  
5 material results in a small weight that entails a low cost in transportation.  
6 Take the hollow seat for example, the injection molding requires a mold  
7 and an insert. The mold and the insert are both made of at least one part.  
8 The insert is put in the mold. Molten plastic material is injected in a  
9 space defined via the mold and the insert. After being cured, the upper  
10 block is removed from the mold, and the insert is removed from the  
11 hollow seat. It could be very difficult to remove the insert from the  
12 hollow seat.

13  
14 The present invention is therefore intended to obviate or at least alleviate  
15 the problems encountered in prior art.

### 16 17 **Summary of Invention**

18 It is an objective of the present invention to provide a chair that can easily  
19 be manufactured.

20  
21 It is another objective of the present invention to provide a chair that can  
22 be manufactured at a low cost.

23  
24 It is another objective of the present invention to provide a chair that is  
25 strong in structure and light in weight.

1 According to the present invention, a chair includes a lower block and an  
2 upper block. The lower block is put on the ground. The upper block  
3 includes a hollow seat and a hollow backrest. The hollow seat is  
4 installed on the lower block. The hollow backrest is installed on the  
5 hollow seat.

6

7 The hollow seat and the hollow backrest may both be made via blow  
8 molding.

9

10 Other objects, advantages, and novel features of the invention will  
11 become more apparent from the following detailed description when  
12 taken in conjunction with the attached drawings.

13

#### 14 **Brief Description of Drawings**

15 The present invention will be described through detailed illustration of  
16 embodiments referring to the drawings.

17

18 Figure 1 is an exploded view of a chair according to a first embodiment  
19 the present invention.

20

21 Figure 2 is a perspective view of the chair shown in Figure 1.

22

23 Figure 3 is a cross-sectional view of the chair shown in Figure 2.

24

25 Figure 4 is a perspective view of a chair according to a second

1 embodiment of the present invention.

2

3 **Detailed Description of Embodiments**

4 Referring to Figures 1~3, according to a first embodiment of the present  
5 invention, a chair 10 includes a lower block and an upper block mounted  
6 on the lower block.

7

8 The lower block includes a base 12 for installment on the ground, a  
9 telescopic post 14 mounted on the base 12, a control device 16 connected  
10 with the telescopic post for control over the extending and shrinking of  
11 the telescopic post 14. The lower block is conventional and hence will  
12 not further be described in detail.

13

14 The upper block includes a hollow seat 18 mounted on the control device  
15 16 and a hollow backrest 20 mounted on the hollow seat 18. The hollow  
16 seat 18 and the hollow backrest 20 are both made via blow molding.

17

18 The hollow seat 18 includes an opening 22. The opening 22 is defined  
19 in the hollow seat 18 during blow molding of the hollow seat 18. The  
20 hollow seat 18 includes two apertures 24 drilled or punched therein.

21

22 The hollow backrest 20 includes a reduced neck 26 put in the opening 22  
23 so as to connect the hollow backrest 20 with the hollow seat 18. The  
24 neck 26 includes two apertures 28 (only one is shown) drilled or punched  
25 therein. A bolt 30 is driven into the apertures 24 and 28 so as to secure

1 the hollow backrest 20 to the hollow seat 18. The upper block is  
2 assembled from the hollow seat 18 and the hollow backrest 20 without  
3 any tool.

4  
5 Figure 4 shows a chair according to a second embodiment of the present  
6 invention. The second embodiment is identical to the first embodiment  
7 except for including two armrests 32 mounted on the hollow seat 18.  
8 The hollow seat 18 includes two cavities 34 defined in the top and four  
9 apertures 36 defined in the top. Two of the apertures 36 are located  
10 within each of the cavities 34. Each of the armrests 32 includes two  
11 inserts 38 extending from the bottom. The bottom of each of the  
12 armrests 32 is put in one of the recesses 34, thus attaching the armrests 32  
13 to the hollow seat 18. The inserts 38 of each of the armrests 32 are  
14 inserted in the apertures 36 located within one of the recesses 34, thus  
15 securing the armrests 32 to the hollow seat 18. The upper block is  
16 assembled from the hollow seat 18, the hollow backrest 20 and the  
17 armrests 32 without any tool.

18  
19 The present invention has been described via detailed illustration of three  
20 embodiments. Those skilled in the art can derive variations from the  
21 embodiments without departing from the scope of the present invention.  
22 Therefore, the embodiments shall not limit the scope of the present  
23 invention defined in the claims.